

REMARKS/ARGUMENTS

Clams 3, 4, 6, 7, 15 and 17 have been objected to because of a number of informalities. Suitable claim changes have been made that are of a self-explanatory nature to remove these informalities.

Claims 16, 18, 20 and 21 have been rejected under 35 USC 112, second paragraph, as being indefinite. Each of these claims has been suitably revised to overcome the specified deficiency. Accordingly, withdrawal of this rejection is in order.

Claims 1, 4 and 6-21 have been rejected as under 35 USC 102(b) as anticipated by Koike et al ("Koike"). Claims 2 and 3 have been rejected under 35 USC 103(a) as being unpatentable over Koike in view of Hageman et al. ("Hageman"). Claim 5 has been rejected under 35 USC 103(a) as being unpatentable over Koike. Reconsideration and withdrawal of these rejections are respectfully solicited in light of the following remarks.

Koike discloses a method for producing a Group III-nitride compound-semiconductor component by means of epitaxial growth, wherein a mask layer 4 is used to etch a layer 31 formed of a first Group III-nitride compound-semiconductor. This first Group III-nitride compound-semiconductor layer is formed on a substrate 1 via a buffer layer 2. Trenches (no assigned reference numeral in the drawings) are formed in the semiconductor layer 31. See Fig. 1A and col. 7, lines 32-41. A second Group III-nitride compound-semiconductor layer 32 is epitaxially grown, vertically and laterally, within the trenches. A key point to keep in mind is that the trenches are formed in semiconductor layer 31, and the growth of semiconductor layer 32 is from the sidewalls formed from the semiconductor layer 31. See col. 7, lines 42-45.

In contrast, the present invention discloses the surprising discovery that the semiconductor material (Group III-nitride compound-semiconductor material) 5 can be laterally grown on the flanks of pits 41 formed within the substrate 1 and/or the initial layer (buffer layer) 2. Thus, with the present invention there is no need to form the pits (or trenches) within an additional semiconductor layer, i.e. the first Group III-nitride compound-semiconductor layer of Koike is eliminated.

In summary, the present invention has no need for Koike's first Group III-nitride compound-semiconductor layer into which the trenches must be etched. The present invention arranges the mask layer directly onto the substrate or onto a buffer layer, which is not identical with the first Group III-nitride compound-semiconductor layer. In the present invention, the pits are etched directly into the substrate and/or the buffer layer. Thus, the present invention provides the significant advantage of fewer layers and, therefore, lower costs as compared to the method described by Koike.

The claims clearly reflect the above-discussed distinctive features of the present invention. For example, independent claim 1 recites "etching back the substrate (1) or the initial layer (2) in the windows (4), in such a manner that pits (41) are formed in the substrate (1) or in the initial layer (2) starting from these windows [and] ... growing the semiconductor material (5) onto the substrate (1) or onto the initial layer (2), in such a manner that lateral growth is promoted and (i) the semiconductor material initially grows primarily from the flanks (43) of the pits" (emphasis added). Independent claims 14 and 17 contain similar features. Accordingly, claims 1, 14 and 17 are not anticipated by Koike under 35 USC 102.

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Moreover, the differences between the present claimed invention and Koike are so fundamental as to clearly render the invention allowable thereover under 35 USC 103.

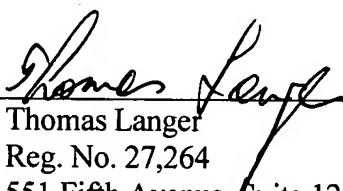
Each of claims 2-13 and 16 depends on claim 1 and, thus, is allowable therewith. Claim 15 depends on claim 14 and, thus, is allowable therewith. Each of claims 18-21 depends on claim 17 and, thus, is allowable therewith.

Based on all of the above, it is respectfully submitted that the present application is now in proper condition for allowance. Prompt and favorable action to this effect and early passing of this application to issue are respectfully solicited.

Should the Examiner have any comments, questions, suggestions or objections, the Examiner is respectfully requested to telephone the undersigned in order to facilitate reaching a resolution of any outstanding issues.

Respectfully submitted,

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